

DETAILED ACTION

This office action is in response to remarks and amendment filed on

Applicants' arguments have been considered, but found not persuasive.

Applicant is arguing that prior document by Hollenbeck et al. US # 4,409,532 does not teach claimed invention. Examiner would like to emphasize that search of the art document to rely upon is based on claimed limitations in the relevant field of art. The prior document is relevant when the claimed limitations and claimed functions or a result of the limitations can be found in the previously disclosed teaching.

An additional evaluation of the Hollenbeck teaching was provided by the examiner, with a conclusion that document reads on all the claimed limitations amended and submitted by the applicant.

Applicant arguing that prior document teaches a control circuit operating a directional rotation of starting and running windings and is different from a high torque starting system as disclosed in the submitted application.

In the independent claim 1 applicant claims components of motor starting such as start and run windings operated by start and run switching devices, a connection of a control unit with starting and running switches in order to instruct the open and closed conditions thereof and programmed operation of running switch in order to cause a supply current delay in the running winding operation during a predetermined time interval from a zero-crossing moment of the current supplied to the stator.

Hollenback et al. teach start and run winding, switches and connection of these devices to a microcontroller to initiate motor rotation during the start-up by triggering start winding triac 30 into conduction, (see col. 6, lines 3-5). The Hollenback microprocessor also designed to trigger run current control triac 32 into conduction when a predetermined time elapsed following the occurrence of zero-crossing pulse generated by voltage sensing means. This time interval is predetermined and chosen to be 35 degrees.

While all the components of claimed invention are present in the prior document, the argument regarding rotational direction control in Hollenbeck et al. teaching being different from providing high torque starting system in the claimed invention is not a valid argument, since the base claim language has no such limitation.

It is the examiner observation that prior art document clearly teaches all claimed structural components in such electrical interlock that provides for delay of current to running winding at a predetermined time delay period. That is why examiner maintains the rejection as follows.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollenback et al. US # 4,409,532.

3. With respect to claims 1, 2, 4, 5 and 6 Hollenback et al. teach in Fig. 5:
- A split phase induction motor 10 having a start winding 12 and run winding 14;
 - A power source presented via terminals L1, N;
 - The start winding is connected to a start switch 30 and run winding is connected to run switch 32, for open and close operational control of respective windings;
 - A microcontroller 40 is programmed according to Fig. 6 that is to trigger triac 32 (a running winding switch) into conduction when a predetermined time has elapsed, (reads on applicants "delay in the supply of the current") following the occurrence of a zero crossing pulse generated by voltage sensing means 39. The predetermined interval for the run winding triac has been chosen 35 degrees in Hollenback et al. teaching.
 - A zero-crossing signal is detected via voltage sensing means 39 and 64;
- With respect to claim 3, Hollenback et al. teach supplying current to the run winding triac to be 35 degrees that is within claimed maximum 90 degrees.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenback et al. US # 4,409,532.

With respect to claim 7 in Hollenback et al. the constructive characteristic of the motor is presented as cyclical characteristic of the appliance such as wash mode or spin mode of the motor operation, (see Fig. 6, and col. 6, lines 57-68).

Hence, it has been obvious to one of ordinary skills in the art, at the time invention was made to control a single-phase induction motor, as a split-phase motor in Hollenback et al. teaching with respect a pre-programmed cyclical operation of appliance.

The reason is to adjust required run time delay according to the load operational demands.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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